Appl. No. 10/765,944 Amdt. Dated February 9, 2006 Reply to Office Action of August 9, 2005

## **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

## **Listing of Claims:**

- 1. (Currently amended): A hybrid switch actuator having six positions that are stable in the absence of current and in which displacement occurs between an initial position and a target position under the action of a current, for operation of a microwave switch, said actuator comprising:
  - (a) a stator having six pole shoes, each pair of opposed pole shoes being associated with a common exciting coil;
  - (b) a rotor package rotatable along a rotation axis and adapted to be positioned within said stator and having two pairs of rotor poles magnetized transversely in alternate directions, said rotor package including:
    - (i) a permanent magnet ring magnetized along the rotation axis;
    - (ii) two end caps adapted to be engaged around said permanent magnet ring, each end cap having two maximum radius regions that each correspond to the area of each of the stator pole shoes, each end cap also having four reduced radius regions, each maximum radius region having two of said four reduced radius regions positioned adjacent therein;
  - (c) wherein the difference between the radius of the maximum radius regions and the radius of the reduced radius regions is substantially smaller than the radial dimensions of the rotor package;
  - (d) such that when the actuator is in the initial position two diametrically opposed stator pole shoes having a first polarity are excited through their associated common exciting coil, said stator pole shoes attract two diametrically opposed rotor poles having an opposite polarity to said first polarity and repel the

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remaining two rotor poles, and the remaining two rotor poles are repelled from the stator pole shoes having a first polarity, and as the minimum radius regions adjacent to the maximum radius regions of the diametrically opposed rotor poles overlap the stator pole shoes having a first polarity, a reduction of the reluctance gap therebetween occurs and then as the maximum radius regions of the diametrically opposed rotor poles overlap the stator pole shoes having a first polarity a further reduction of the reluctance gap therebetween occurs until such that each rotor pole associated with a maximum radius region is can be precisely aligned with a stator pole associated with a stator pole shoe of the actuator in the target position.

2. (Cancelled).

3. (Original): The actuator of claim 1, wherein said end caps are separated from each

other by at least 1.5 mm.

4. (Original): The actuator of claim 1, wherein rotor package is adapted to move from

any initial position to any target position by moving 60 degrees.

5. (Original): The actuator of claim 2 in combination with a T-switch having an rf

module, wherein said maximum radius regions and said minimum radius regions are

dimensioned to match the torque of the actuator to the T-switch so that in the presence

of current, high torque is achieved when the resisting load from the rf module is

greatest.

(New): The actuator of claim 1, wherein the difference between the radius of the

maximum radius region and the radius of the reduced radius region is in the range of

.5% to 2.2% of the radius of the permanent magnet.

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- 7. (New): The actuator of claim 1, wherein the difference between the radius of the maximum radius region and the radius of the reduced radius region is in the range of .416% to 2.5% of the thickness of the permanent magnet.
- 8. (New): The actuator of claim 1, wherein each pair of opposed stator pole shoes are of like polarity.
- 9. (New): The actuator of claim 1, wherein each pair of opposed rotor poles are of like polarity.